

What is claimed is:

1. A semiconductor device, comprising:
  - a semiconductor substrate;
  - a source region which is formed in a surface side of the semiconductor substrate;
  - a drain region which is formed in the surface side of the semiconductor substrate which is apart from the source region;
  - a gate electrode which is formed on the semiconductor substrate via an gate insulating film and which is between the source region and the drain region;
  - an element isolation insulator which is formed on the surface side of the semiconductor substrate to provide electrical insulation from other elements, a height of a surface of the element isolation insulator being equal to or lower than that of a surface of the semiconductor substrate;
  - a stopper which is formed of a material different from that of the element isolation insulator and which is at a predetermined distance from the semiconductor substrate so as to protrude from the surface of the element isolation insulator; and
  - an elevated source/drain which is formed on the source region and the drain region so as to be elevated from the surface of the semiconductor substrate.
2. The semiconductor device according to claim 1, wherein the element isolation insulator is formed of a material including  $\text{SiO}_2$  as its major constituent.
3. The semiconductor device according to claim 2, wherein the stopper is formed of a material including  $\text{SiN}$  as its major constituent.
4. The semiconductor device according to claim 3, wherein if an angle which is formed by the elevated source/drain formed on the top of the element isolation insulator between the semiconductor substrate and the stopper and a sidewall of the

semiconductor substrate is taken as  $\theta$ , a distance between the sidewall of the semiconductor substrate and the stopper is taken as A, and a height by which the stopper protrudes from the surface of the element isolation insulator is taken as B, then a condition of  $B > A/\tan\theta$  is satisfied.

5. The semiconductor device according to claim 1, wherein even if a facet appears in the elevated source/drain, the elevated source/drain grows in a vertical direction after it touches the stopper.

6. The semiconductor device according to claim 1, wherein the stopper is formed on the element isolation insulator.

7. The semiconductor device according to claim 1, wherein the element isolation insulator comprises:

a first insulating film which is formed inside a trench which is formed in the semiconductor substrate to form an element isolation region; and

a second insulating film which is formed inside the first insulating film.

8. The semiconductor device according to claim 7, wherein the stopper is embedded between the first insulating film and the second insulating film and formed so as to protrude from a surface of the first insulating film.

9. The semiconductor device according to claim 1, wherein the elevated source/drain is formed by epitaxially growing silicon.

10. A method for manufacturing a semiconductor device, comprising:

forming an element isolation insulator on a surface side of a semiconductor substrate at a height equal to or lower than a surface of the semiconductor substrate;

forming a stopper at a predetermined distance from the

semiconductor substrate so as to protrude from a surface of the element isolation insulator, wherein a material of the stopper is different from that of the element isolation insulator; and

forming an elevated source/drain on a source region and a drain region of the semiconductor substrate, wherein the elevated source/drain is elevated from the surface of the semiconductor substrate.

11. The method for manufacturing the semiconductor device according to claim 10, wherein the element isolation insulator is formed of a material including  $\text{SiO}_2$  as its major constituent.

12. The method for manufacturing the semiconductor device according to claim 11, wherein the stopper is formed of a material including  $\text{SiN}$  as its major constituent.

13. The method for manufacturing the semiconductor device according to claim 12, wherein if an angle which is formed by the elevated source/drain formed on top of the element isolation insulator between the semiconductor substrate and the stopper and a sidewall of the semiconductor substrate is taken as  $\theta$ , a distance between the sidewall of the semiconductor substrate and the stopper is taken as  $A$ , and a height by which the stopper protrudes from the surface of the element isolation insulator is taken as  $B$ , then the stopper is formed so as to satisfy a condition of  $B > A/\tan\theta$ .

14. The method for manufacturing the semiconductor device according to claim 10, wherein in the step of forming the elevated source/drain, even if a facet appears in the elevated source/drain, the elevated source/drain grows in a vertical direction after the elevated source/drain touches the stopper.

15. The method for manufacturing the semiconductor device according to claim 10, wherein in the step of forming the stopper, the stopper is formed on the element isolation insulator.

16. The method for manufacturing the semiconductor device according to claim 10, wherein the steps of forming the element isolation insulator and the stopper comprise:

- forming a trench in the semiconductor substrate in a region where an element isolation region is formed;

- forming a first insulating film inside the trench;

- forming a second insulating film inside the first insulating film;

- forming the stopper in a sidewall portion of the trench by etching the second insulating film;

- forming a third insulating film which is embedded in the trench; and

- etching the first insulating film and the third insulating film to protrude the stopper from the first insulating film.

17. The method for manufacturing the semiconductor device according to claim 16, further comprising forming a hard mask on the semiconductor substrate, wherein

- in the step of forming the trench, the trench is formed by etching the semiconductor substrate and the hard mask.

18. The method for manufacturing the semiconductor device according to claim 17, wherein in the step of forming the first insulating film, the first insulating film is formed inside the trench formed in the semiconductor substrate and on the hard mask.

19. The method for manufacturing the semiconductor device according to claim 18, wherein the first insulating film is formed of a material including  $\text{SiO}_2$  as its major constituent and the second insulating film is formed of a material including  $\text{SiN}$  as its major constituent.

20. The method for manufacturing the semiconductor device according to claim 10, wherein the step of forming the elevated source/drain comprises epitaxially growing silicon.